In paragraph 4 on page 3 of the Office Action, claims 12-35 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Dierke. The Office Action noted that Dierke does not disclose a data compression system, especially a printer. However, the Office Action took official notice that it would be obvious to use the compression system disclosed in Dierke in a printer system.

The Applicants respectfully traverse the rejection for the following reasons.

Applicants' invention, as recited in amended claims 1, 36 and 47, requires arranging discrete cosine transform equations into at least one collection of at least two discrete transform equations having at least two discrete cosine transform constants. Then, the discrete cosine transform "equations in the at least one collection" is scaled by "dividing each of the discrete cosine transform constants in the collection" by "one of the discrete cosine transform constants <u>from</u> the at least one collection." Finally, each of the scaled discrete cosine transform constants is represented with sums of powers-of-2 that are approximations for the scaled discrete cosine transform constants.

Dierke does not meet all of the limitations recited in the claims. Dierke scales a complete set of discrete cosine transform equations using scaling factors for each row in the set of discrete cosine transform equations. Each scaling factor for each row of equations is chosen so that a coefficient in each row becomes equal to 1.

However, Dierke does not arrange discrete cosine transform equations into at least one collection of at least two discrete transform equations having at least two discrete cosine transform constants. If Dierke is read so that the transform matrix T meets this limitation of the claims, then Dierke cannot meet the next limitation wherein the discrete cosine transform "equations in the at least one collection" is scaled by "dividing each of the discrete cosine transform constants <u>in the collection</u>" by "one of the

discrete cosine transform constants from the at least one collection." Rather, Dierke merely discloses that each row is scaled with its own scaling factor.

Alternatively, if Dierke is read such that each row in matrix T is a collection, then each collection does not meet the limitation that the collection includes at least two discrete transform equations.

Because claims 2-11, 37-46, and 48-49, which depend directly or indirectly from claim 1, 36 and 47 respectively, and include the features recited in the independent claims as well as additional features, Applicant respectfully submits that claims 2-11, 37-46, and 48-49 are also patentably distinct over the cited references. Nevertheless, Applicants are not conceding the correctness of the Office Action's rejection with respect to such dependent claims and reserve the right to make additional arguments if necessary.

In paragraph 3 on page 3 of the Office Action, claims 1-49 are rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent 5,701,263 issued to Pineda in view of U.S. Patent 5,781,239 issued to Mattela et al (hereinafter Mattela). The Office Action stated that Pineda teaches the invention substantially as recited in claims 1, 12, 25, 36 and 47, except for representing the scaled discrete cosine transform constants with sums of powers-of-2 that are approximations for the scaled discrete cosine transform constants.

The Applicants respectfully traverse the rejection for the following reasons.

Applicants' invention, as recited in amended claims 1, 12, 25, 36 and 47, requires arranging discrete cosine transform equations into at least one collection of at least two discrete transform equations having at least two discrete cosine transform constants. Then, the discrete cosine transform "equations in the at least one collection" is scaled

by "dividing each of the discrete cosine transform constants in the collection" by "one of the discrete cosine transform constants from the at least one collection." Finally, each of the scaled discrete cosine transform constants is represented with sums of powers-of-2 that are approximations for the scaled discrete cosine transform constants.

Pineda fails to suggest arranging discrete cosine transform equations into at least one collection of at least two discrete transform equations having at least two discrete cosine transform constants. Pineda merely discloses multiplying each DCT coefficient by a selected prescaling factor that varies with position in accordance with a predetermined prescaling function to form a prescaled signal representing a series of prescaled DCT coefficients. Thus, each equation is multiplied by a prescaling factor.

Pineda also fails to divide "each of the discrete cosine transform constants in the collection" by "one of the discrete cosine transform constants from the at least one collection." Rather, each prescaling factor is chosen to be .71, .98 or .92 according to position with the prescaling vector that is applied to the transform equations. Thus, the scaling factors are not chosen from a collection of equations such that each of the discrete cosine transform constants in the collection is divided by "one of the discrete cosine transform constants from the at least one collection."

Pineda also fails to represent each of the scaled discrete cosine transform constants with sums of powers-of-2 that are approximations for the scaled discrete cosine transform constants.

Mattela fails to remedy the deficiencies of Pineda. Mattela fails to suggest representing each of the scaled discrete cosine transform constants with sums of powers-of-2 that are approximations for the scaled discrete cosine transform constants.

Mattela performs the inverse DCT based on the Chen algorithm for IDCT computation. According to the Chen algorithm, the transform matrix I is calculated using a Q matrix and a P matrix. The Q matrix is a diagonal matrix that has diagonal non-zero values, with the remainder of the values being 0. The P matrix includes a plurality of values that are the opposite sign of each other. The coefficients in the P matrix are represented by bits represented by sums of powers-of-2.

However, Mattela does not suggest that the scale coefficients themselves are represented sums of powers-of-2 that are approximations for the scaled discrete cosine transform constants.

Because claims 2-11, 37-46, and 48-49, which depend directly or indirectly from claim 1, 36 and 47 respectively, and include the features recited in the independent claims as well as additional features, Applicant respectfully submits that claims 2-11, 37-46, and 48-49 are also patentably distinct over the cited references. Nevertheless, Applicants are not conceding the correctness of the Office Action's rejection with respect to such dependent claims and reserve the right to make additional arguments if necessary.

In view of the reasons provided above, it is believed that all pending claims are in condition for allowance. Applicant respectfully requests favorable reconsideration and early allowance of all pending claims.

None of the references, either alone or in combination, shows or suggests the claimed invention. Withdrawal of the rejection and reconsideration of the claims are respectfully requested.

Respectfully submitted,

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